ABSTRACT OF THE DISCLOSURE

Computer-implemented techniques are provided for synthesizing sounds of an internal combustion engine vehicle using a physical model of the vehicle. In general terms, the method includes independently generating and/or synthesizing separate components of the vehicle sound, then combining these components to produce a final sound. Using a physical model of the vehicle, the separate components of the vehicle sound are independently generated from vehicle control parameters characterizing the operating conditions of the vehicle. The components are then combined using mixers and equalizers to produce a realistic vehicle sound. The present technique allows independent control of the separate components of the vehicle sound, is not limited to specific vehicles, and does not require recorded sounds taking large amounts of storage space.